

# Afterword

*Tom Inglesby*

**W**hen D. A. Henderson recruited me to work at the original biosecurity center, there was important work to be done, but little funding, and little interest outside of our immediate circle. Enter the Sloan Foundation. D. A. was presenting his views on bioterrorism at a major meeting of scientists addressing the problems posed by biological weapons and bioterrorism – an anomalous topic then considered something best left to the arms control community. Ralph Gomory was in the front row. After the meeting, Ralph asked D. A. what needed to be done with greatest priority. D. A. gave him a list of priorities and asked whether the Sloan Foundation might be interested in funding any of it. Ralph’s reply: “Do all of it.” This book describes what followed from that momentous meeting.

“Do all of it” turned out to be the driving theme that animated Ralph and Paula Olsiewski and the foundation’s work in biosecurity for more than a decade. When they saw no path to solving a problem, they blazed new trails and found new grantees. When they found no science to answer key

questions, they rallied new scientists to the effort. They kept the larger goal of preparing the nation for bioterrorism in mind. They pressed people to move forward as quickly as they could to improve preparedness. I saw their commitment over the years firsthand. It was a combination of stubborn optimism and impatience for progress. What they helped build is remarkable.

Numerous US government programs and systems have been established since 2000. Could many of them be stronger? Yes. Could they do all the country would need if a major biological weapons attack occurred? No. But we are much stronger than we were in 2000, and, if we sustain what has been built, we will be able to prevent a good share of the suffering and chaos that would have followed a major epidemic in 2000.

Unfortunately, the federal budget for biosecurity programs has been reduced in the last few years, largely as a result of budget deficits, broad cuts, and yes, some waning of concern as the specter of the 2001 attacks fades. In the case of funding for state and local public health preparedness, the cuts have been drastic and will lead to real reductions in capacity. Without question, such dramatic cuts to key biosecurity programs should be reversed. In general, though, as compared to the world before 9/11, federal support for biosecurity programs remains substantial and, with strategic direction, can make big differences in the country's ability to cope with biological threats.

In the scientific community, discussions regarding the responsible conduct of the life sciences have evolved steadily since 2000. New policies being considered in response to recent H5N1 mammalian transmissibility research are, at the time of this writing, the most recent development in an ongoing dialogue among members of the policy, scientific, biosafety, and biosecurity communities in the US and abroad. Striking the right balance between

preserving scientific freedoms and minimizing the risk of inadvertent harm will require careful thought and consideration in the years ahead.

Taking stock of where we are now means recognizing as well that there are some other accomplishments that we should have achieved by now but have not. For instance, as a nation, we should already have acknowledged the essential role that the public health system and its agencies will play in a major infectious disease crisis and committed once and for all to funding that system and keeping it strong. We should have a broader armamentarium of new medicines and vaccines. Those are just two examples of important work still to be done.

As for the collective, extraordinary achievements in the field to date, those gains have many parents, but many of those successes had their genesis in the vision and support of the Alfred P. Sloan Foundation. The story recounted in this book illustrates the ways a foundation can take risks and try new approaches that government cannot. It shows that foundations can pursue problems of the people along paths that the private sector is less likely to follow.

Many big challenges lie ahead in biosecurity. How will we manage the risks that will attend new biotechnology discoveries without stifling or slowing scientific progress? How can we make sure that our approach to biosafety keeps pace with breakthroughs in pathogen engineering, for example? Given the globalization of biology, how do we come to multinational agreement on biological dangers and protections? How do we discover and develop the medicines and vaccines we need to protect people from the most dangerous pathogens? Can we sustain public health and hospital disaster response capacities as resources dwindle? Will we be able to discover novel epidemic

diseases before they have taken hold and spread widely in the world?

There are elements of all these problems that foundations are uniquely poised to address. Foundations provide independence from government grantees are unfettered and can say what they need to say. Foundations provide financial flexibility they do not get entangled by a congressional budget impasse. They offer freedom to innovate and to adapt our approaches to hard problems as new knowledge changes the dimensions of the problems or as crises arise.

The US is indebted to the Sloan Foundation for its generous investment in improving American preparedness. Sloan showed us how foundations can make safer the lives of so many. We can only hope that other foundations recognize the contributions they could make to US biosecurity in the next decade and beyond. Relatively small investments, if focused clearly and well, can produce remarkable good.

*Tom Inglesby, MD, director of the Center for Biosecurity of UPMC, has been with the center since its inception in 2003 and was one of the founders of the Johns Hopkins Center for Civilian Biodefense Studies in 1998. He is an associate professor of medicine and public health at the University of Pittsburgh Schools of Medicine and Public Health.*

